

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Dispensing Head for Aerosol Containers

WE, STENOSON DUNN, INC., a corporation organized under the laws of the State of Delaware, United States of America, of 1450 Broadway, New York, State of New York, United States of America, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention relates to a dispensing head in the form of a cover cap for co-operating with the valve stem of a pressurized aerosol container for the administration of therapeutic agents in the form of a vapor or fine mist, and including means whereby the vapor may be locally applied as desired by the user, the cover cap being constructed to be used as a cap and protector for the valve stem of the aerosol container when the device is not in use so that it is easily carried in pocket or purse without appreciable danger of leakage or accidental activation.

It is also desirable to provide the cap with an available air passage only when an aerosol is dispensed for relieving a spray.

It is also desired the dispensing head to require no assembly problems on the part of the user, such as to the apparatus shown in our British patent No. 464,751, but at the same time the aerosol valve is protected, secured and detached of the dispensing head to valve stem is eliminated, and the dispensing head may always be engaged with the valve stem of the aerosol container.

In accordance with the present invention there is provided a dispensing head for an aerosol container charged with a self-propelling liquid composition and equipped with an inwardly depressible and sealable valve stem, said head comprising a cylindrical body member adapted to fit on the container, a delivery tube shaped for administration of the aerosol contents to the oral cavity of the user, an air inlet permitting mixing of air

with the aerosol contents within the delivery tube, said delivery tube being substantially straight and being formed as an integral part of the cylindrical body member and mounted substantially perpendicularly thereto, a depressible button slidably positioned within the cylindrical body member to move axially thereof so as to engage said valve stem for depressing the button, said button being maintained in normal inoperative position by the resilient action of said stem, said air inlet comprising an opening in the cylindrical body member through which a portion of said depressible button extends, the depressible button normally closing said air inlet but opening the same upon being depressed.

Reference is made to the accompanying drawings illustrating a specific embodiment of the invention in which:

Fig. 1 is a perspective view illustrating the device with the closure cap in place;

Fig. 2 is a sectional view through the device showing the construction thereof;

Fig. 3 is a partial view similar to Fig. 2 but showing the valve depressed;

Fig. 4 is a plan view, looking in the direction of arrow 4 in Fig. 2;

Fig. 5 is a plan view on an enlarged scale of the cap of the depressible button, and

Fig. 6 is a bottom plan view thereof.

For the purpose of illustrating the invention, the case is shown in Figs. 1 and 3 as being applied to an aerosol container 10, as shown in Fig. 2, the aerosol container is provided with a tapered neck 11 and a tapered valve stem 14 and is well known in the art when the valve stem is pressed inwardly in the direction of the arrow 14, a spray will be emitted from the end of the valve stem 14 in the usual manner. The aerosol container can be of the mounting type or it can be a container type as desired.

The dispensing head which comprises the subject matter of the present invention is 90

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7. A dispensing head according to any one of the preceding claims, positioned on a tapered neck portion of an aerosol container so as to be substantially permanently fitted on said neck portion with the depressible button engaging the valve stem of the aerosol container.

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generally indicated by the reference numeral 15. In the first place there is generally cylindrical body member 20 having its inwardly directed flange in the form of a cap 21 with a generally annularly extending flange 22 and a central opening 23. The cylindrical portion 22 also houses in its top portion a member 24 which is joined to cylindrical member 20 along curved lines 24 (see Fig. 1). An inclined surface 24 extends well above the top of the cap 21 and down the past of portion 22 above cap 21.

Referring more particularly now to the construction of the member 24, it will be seen that this is provided as its upper end with an inclined or beveled wall 30 which when the button is in its raised position above the flange 22 of the cap 21, the inclined wall 30 forms a part of the edge of the opening 24. This accommodates the wall at 30 of member 24 and also in effect forms an upper cap for the opening 24.

The inclined wall at 30 and 40 have transverse surfaces substantially in conformation (see particularly Fig. 4) and the member has a flat forward edge 42 which extends down to a shelf 44 (see Figs. 3 and 4). Below the shelf 44 the member 24 is generally cylindrical in shape and conforms to the inside surface of the member 20, this inside surface being indicated at 46 in Fig. 3 and the member 24 is adapted to ride up and down in this cylinder. The flat surface at 42 sides along a flat surface at 50 which forms the forward edge of the opening 24 as the member is always in correctly aligned position with respect to the rest of the head.

It is particularly pointed out that in its uppermost position the top surface of the member 24 of the member 24 actually extends into the cap 21 with and is slightly below the top surface at 54 of the projection of the delivery tube 23 and the member 24 is capable of being purposely pushed down in the direction of arrow 16 and is indicated in Fig. 1, will not be so moved and is held in its position by the fact that the projection of the cylindrical portion 23 riding on the surface 54 acts as a guard against this action.

The member 24 is laterally held but it has a solid portion 53 (see particularly Fig. 2), and in this solid portion there is a passage 59 at 60 having an enlargement which receives the stem 14 preferably with a close fit. However, the passage 60 communicates with another passage 64 in an angle chosen forming the spray orifice. When the button is in the down position (Fig. 3), a spray is issued from the upper portion of the cylindrical delivery tube 23 and when this occurs it will be seen that an adequate air passage 64 is provided because the inclined surface 19 of the button 24 drops away from the inclined surface 40 to the top portion of the cylindrical member 20.

WHAT WE CLAIM IS:—

1. A dispensing head for an aerosol container charged with a self-propelling liquid composition and equipped with an inwardly depressible and sealable valve stem, said head comprising a cylindrical body member adapted to fit on the container, a delivery tube shaped for administration of the aerosol contents to the oral cavity of the user, an air inlet permitting mixing of air with the aerosol contents within the delivery tube, said delivery tube being substantially straight and being formed as an integral part of the cylindrical body member and mounted substantially perpendicularly thereto, a depressible button slidably positioned within the cylindrical body member to move axially thereof so as to engage said valve stem for depressing the button, said button being maintained in normal inoperative position by the resilient action of said stem, said air inlet comprising an opening in the cylindrical body member through which a portion of said depressible button extends, the depressible button normally closing said air inlet but opening the same upon being depressed.
2. A dispensing head according to claim 1, in which the air inlet is defined by an inwardly directed flange on the cylindrical body member, said flange having an inclined wall, and a correspondingly inclined wall on the button, said inclined walls being engaged in the normal inoperative position of said button but providing the air inlet upon depression of said button.
3. A dispensing head according to claim 2, in which the matching inclined walls have transverse surfaces.
4. A dispensing head according to any one of the preceding claims, which comprises a finger piece on said depressible button normally extending less than proximity with the top surface of a projection of the delivery tube.
5. A dispensing head according to claim 4, in which the inoperative position of the button the fingerpiece is spaced slightly below the top surface of the projection of the delivery tube.
6. A dispensing head according to any one of the preceding claims, which includes a closure cap adapted for reception on the neck portion of the delivery tube.

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1 SHEET

This drawing is a reproduction of the Original as a reduced scale

